20-Year Forest Management Plan (FMP) for Forest Management Licence #3

Terms of Reference

Revised: July 23, 2019

EXECUTIVE SUMMARY

Who – The Plan proponent (Louisiana-Pacific Canada Ltd.) is the holder of Forest Management Licence #3. The plan regulator is the Province of Manitoba. The 20-Year Forest Management Plan (FMP) will be guided by input received from Indigenous communities, stakeholders, environmental groups and the public.

An FMP Planning Team consisting of staff from Louisiana-Pacific Canada Ltd., the Province of Manitoba, scientists and/or consultants will guide the creation of the 20-Year Forest Management Plan (FMP).

FMP Planning Team members will include:

AGENCY	ROLE OR TITLE	PERSON
Louisiana-Pacific (LP) Canada Ltd. Swan Valley – Forest Resources Division	Siding Business Manager, Natural Resources	Dan Toivonen
	Area Forest Manager	Todd Yakielashek
	District Forester	Paul LeBlanc
	Planner	Vern Bauman
Mountain Forest Section Renewal Company (MFSR)	Silviculture Forester	Jeannette Coote
Manitoba Sustainable Development (MSD)	Forestry and Peatlands branch (Winnipeg) A/ Director	Matt Conrod
	Forestry and Peatlands branch (Winnipeg) Industry Liaison	Jane Epp
	Forestry and Peatlands branch (Winnipeg) FMP Consultation Lead	Evan Finkler
	Forestry and Peatlands branch (Winnipeg) Wood Supply Modeller	Jianwei Liu
	Forestry and Peatlands branch (Winnipeg) A/Manager - Inventory & Analysis section	Jim Boyd
	Forestry and Peatlands branch (Swan River) Western Region Forester	*Vacant*

Manitoba Sustainable Development (MSD)	Forestry and Peatlands Branch (Swan River) Regional Forest Management Supervisor	David Chetyrbuk
	Wildlife and Fisheries Branch (Winnipeg) Habitat Mitigation & Wildlife Land Specialist	Brian Kiss
	Wildlife and Fisheries Branch (Swan River) Regional Biologist	Gerald Shelemy
	Wildlife and Fisheries Branch (Swan River) Regional Wildlife Biologist	Brent Fuchs
	Wildlife and Fisheries Branch (The Pas) A/Manager, Regional Wildlife Section	Maria Arlt
	Wildlife and Fisheries Branch (Dauphin) Regional Wildlife Manager	David Elliot
	Environmental Approvals Branch (Winnipeg) Environment Officer	Elise Dagdick

Additional staff from LP Canada, the Province of Manitoba, Timber Quota holders, as well as, stakeholders and the public will be involved at different stages of FMP development.

What – The FMP Terms of Reference (ToR) is the blueprint for developing the 20-Year Forest Management Plan (FMP) for Forest Management Licence #3. The new 20-Year FMP will include ecosystem values and be designed with a community-supported strategy to ensure the long-term conservation of moose populations. The benefits to Moose management resulting from FMP development will be discussed with the MSD Wildlife and Fisheries branch, Indigenous communities and stakeholders. The plan proponent will incorporate moose science and traditional knowledge regarding moose, wherever possible. Ecosystem-Based Management will continue to provide the basis for FMP development and will consider components such as land base, yield curves, modelling and management objectives.

Where – The 20-Year FMP is for Forest Management Licence #3 (FML-3), which includes the Duck Mountain Provincial Forest and surrounding area. FML-3 is located mostly within the Boreal Plain ecozone with a small portion located in the Prairie ecozone.

When - The FMP Terms of Reference (ToR) must be mutually agreed upon, in writing, by the Plan regulator (Province of Manitoba) and the Plan proponent (LP Canada Ltd.). Once written approval of the ToR occurs, the plan proponent will refer to the ToR to guide and help develop the 20- Year Forest Management Plan (FMP).

Map: Forest Management Licence #3 (FML-3)

Louisiana Pacific (LP) will undertake Engagement and Information Sharing at various stages of the FMP as identified in – *Manitoba's Submission Guidelines for Twenty Year Forest Management Plans.*
https://www.gov.mb.ca/sd/forestry/pdf/practices/20_year_forest_plan_2007.pdf.
Proponent Communication Plan (Information Sharing and Engagement):

- **Early plan development** – (post ToR approval but at the beginning of the plan process). Confirming plans for information sharing and identifying community values
- **Mid-plan development** – Scenario planning, iterative modifications to scenarios based on input
- **Late plan development** – Scoring forest management scenarios to assist in choosing the 'Preferred Management Scenario (PMS)' complete with 20 years of harvest scheduling and modeling output.

The 20-Year FMP is expected to be submitted to the Province of Manitoba by December 31, 2019.

Manitoba Sustainable Development (MSD) and LP agreed to a Chapter Approval in Principle process. Chapters of the FMP, or portions thereof, would be submitted to MSD for a full Technical Advisory Committee (TAC) review and comment as completed by LP. These comments would be forwarded to LP to edit or respond to the concern. MSD signing off on the Chapter Approval in Principle does not indicate completeness or finalize the chapter but defines direction on the chapter and addresses concerns prior to the final submission. Once the full plan is submitted, Forestry and Peatlands branch will follow the guidance in the FMP Submission Guidelines (*i.e.* Manitoba's Submission Guidelines for Twenty Year Forest Management Plans, 2007) in coordinating a review.

FMP approval is anticipated to be within two years following submission of the FMP – December 2021.

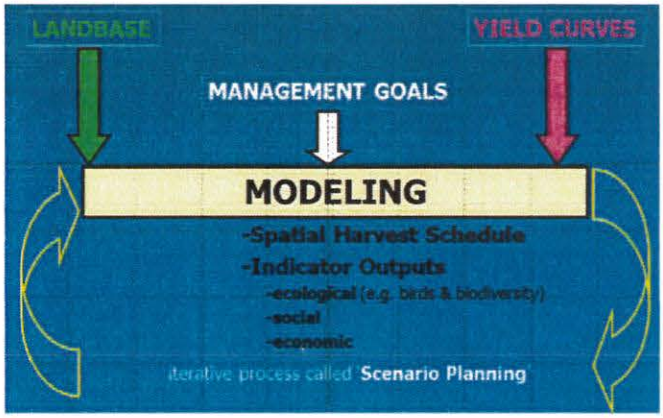
The approved Forest Management Plan (FMP) will be signed by both the proponent and Director of Forestry and Peatlands branch.

Why – The 20-Year FMP is the long-term strategic plan that will guide forestry activities in Forest Management Licence #3 over the next 20-year period.

How – The 20-Year Forest Management Plan (FMP) is a large and complex undertaking. Therefore, the FMP Terms of Reference is sub-divided into four categories:

- land base
- yield curves
- management goals
- modeling

These four FMP categories will lead into an iterative modeling process. Note that opportunities to provide input for plan development will be provided to Manitoba Sustainable Development, Indigenous communities, stakeholders and the public.



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1. INTRODUCTION

The Plan proponent, LP Canada Ltd., is the licence holder for Forest Management Licence #3. The Plan regulator, the Province of Manitoba, is responsible for the review and approval of the 20-Year Forest Management Plan (FMP).

1.1 Ecologically-Based Approach

An **ecologically-based approach** to this proposed FMP is consistent with provincial, national, and international guidance:

Provincial

- Manitoba's Submission Guidelines for Twenty Year Forest Management Plans

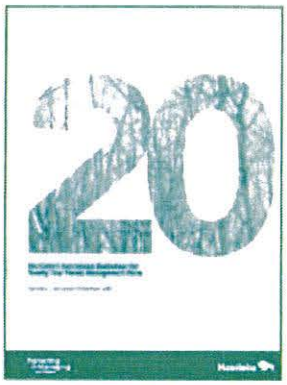
National

- Canadian Council of Forest Ministers – Indicators of Sustainable Forest Management (2003);
- Sustainable Forest Management (SFM)

Globally

- Embedded with the World Conservation Strategy (International Union for the Conservation of Nature et al. 1980)
- United Nations Conference on Environment and Development's Agenda 21 (United Nations 1992a)
- United Nations Convention on Biological Diversity (United Nations 1992b)

1.2 Terms of Reference



(From page 2, section 2.0 Pre-Planning Requirements – Manitoba's Submission Guidelines for Twenty Year Forest Management Plans)

Terms of Reference

The Terms of Reference (ToR) is a living document. The ToR is used by the Plan proponent (LP Canada), and the Plan regulator (Province of Manitoba) as a planning aid to guide the FMP Planning Team in discussions regarding the 20-Year FMP. Wood supply information and/or Base Case analysis will be provided by the Manitoba Sustainable Development (MSD). If MSD does not have a Base Case completed, in part or in total, by the time the Terms of Reference for the FMP is submitted, the Director of Forestry and Peatlands will give written instructions to the proponent on how to proceed in a timely manner.

The **Plan regulator** (Province of Manitoba) will provide:

- confirmation that the proposed indicator species (plant and/or animal) selected for modelling the Preferred Management Scenario (PMS) meet government requirements
- end date for submission of the 20-Year FMP to the Province of Manitoba
- details of the various Manitoba Sustainable Development review processes
- details of the Environmental Assessment process and Licensing Branch process, under the *The Environment Act*
- details of Manitoba's Crown-Consultation process including proponent's role in supporting the process
- the proposed date for the Province of Manitoba to approve the 20-Year FMP
- existing issues in Forest Management Licence #3 (FML-3)
- confirmation that the suite of indicator species (plant and/or animal) proposed are satisfactory
- available information regarding other resource uses
- other relevant land base management plans

The **Plan proponent** (LP Canada Ltd.) will provide:

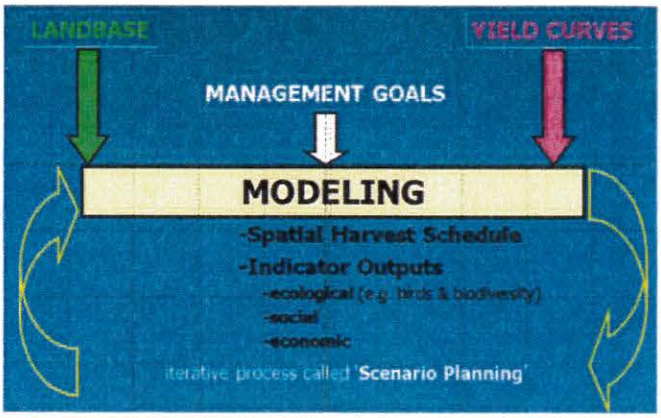
- a Communication Plan (*i.e.* Information Sharing and Engagement)
- existing issues in Forest Management Licence #3 (FML-3)
- the proposed indicator species (plants and/or animal) selected for PMS modelling of the FMP

1. FOREST MANAGEMENT PLAN OVERVIEW

A 20-Year Forest Management Plan (FMP) is a large and complex undertaking. Therefore, the FMP Terms of Reference is sub-divided into four meaningful categories:

- land base
- yield curves
- management goals
- modeling

Note that information provided by Indigenous communities, technical experts, stakeholders and the public can occur at each phase of modelling.



Embedded science – wherever possible, relevant science and traditional knowledge (verbal and written) will be added into the land base, yield curves, management goals, and modeling. For example, geographic areas can be identified that are of traditional importance to local persons, and this information can be used in the land base.

2.1 Proponent Communication Plan (Information Sharing and Engagement)

As per section 2.0 of the FMP guidelines (i.e. *Manitoba's Submission Guidelines for Twenty Year Forest Management Plans),* the Province of Manitoba will provide information on the Crown-Consultation process with Indigenous communities (including timelines and communities) and communicate the proponent's role in supporting consultation by providing information on FMP development.

The proponent will prepare a "Communication Plan" that outlines plans for FMP Information Sharing and Engagement with Indigenous communities and stakeholders.

Information Sharing and Engagement will happen at various stages of the FMP:

- **Early plan development** – (post ToR approval but at the beginning of the plan process) Confirming plans for engagement and identifying community values
- **Mid-plan development** – Scenario planning, iterative modifications to scenarios based on input;
- **Late plan development** – Scoring forest management scenarios to assist in choosing the "Preferred Management Scenario (PMS)" complete with 20 years of harvest scheduling and modeling output.

2.2 Existing Issues in Forest Management Licence #3 (FML-3)

Existing issues in FML-3 are as follows:

- low moose populations
- community-supported strategy for the long-term conservation of moose populations
- the perception of declining elk and marten habitat
- landscape-level management
- water yields
- beaver populations
- roads and road access
- species at risk
- forest access and trails

Note that the list will be updated to include information received through Information Sharing and Engagement.

Some local stakeholders have raised issues in regard to the decline in moose populations. LP will be investigating a landscape management approach for the 20-Year FMP that would significantly reduce the number of roads and thereby limit access.

2.3 Indicator Species in the FMP

Indicator species are defined as an animal or plant species that can be used to infer conditions in a particular habitat.

Indicator species that will be modelled for within the scope of this forest management plan are the 17 indicator bird species listed below. These indicator bird species represent habitat with different ages, cover types and interspersion.

Coarse-Filter Biodiversity Bird Species with existing models in the Duck Mountain:

1)	AMRE	American redstart
2)	BCCH	Black-capped chickadee
3)	BHCO	Brown-headed cowbird
4)	BHVI	Blue-headed vireo
5)	BOCH	Boreal chickadee
6)	BRCR	Brown creeper
7)	COYE	Common yellowthroat
8)	CSWA	Chestnut-sided warbler
9)	GCKI	Golden-crowned kinglet
10)	HETH	Hermit thrush
11)	OVEN	Oven bird
12)	REVI	Red-eyed vireo
13)	SWTH	Swainson's thrush
14)	VEER	Veery
15)	WIWR	Winter wren
16)	YBSA	Yellow-bellied sapsucker
17)	YWAR	Yellow warbler

Several other wildlife species, that are not indicator species, rather species of noted concern or importance are, Moose, American Pine Marten, and Elk. Bird species at risk include Golden Winged Warbler, Canada Warbler, and Olive sided fly catcher. Below is a summary of how the forest management plan will address/model habitat abundance for each species.

Moose
A Resource Selection Function (RSF) model will be used to spatially model and quantify winter moose habitat for the current forest condition as well as at years 10, 20, 30 and 40.

A Habitat Supply Model (HSM) will be used to spatially model and quantify summer moose habitat for the current forest condition as well as at years 10, 20, 30 and 40.

Marten
A Habitat Suitability Index for winter cover will be used to aspatially model marten winter cover for 200 years.
Bird Species at Risk

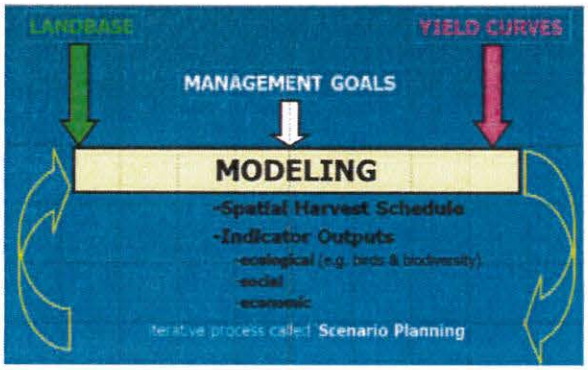
Bird species at risk have very little habitat information. Therefore, the agreed upon approach will be to use indicator bird species as a proxy for bird species at risk.

Species	Surrogate Indicator Bird Species
Canada warbler (CAWA),	American Redstart (AMRE), Veery (VEER)
Olive-sided flycatcher (OSFL),	Alder Flycatcher (ALFL), Common Yellowthroat (COYE)
Golden-winged warbler (GWWA),	American Redstart (AMRE), Veery (VEER)

Elk
Currently there is no suitable model or data available to strategically quantify or model elk habitat for the FML 3 area at the landscape level. Elk are recognized as an important species of concern. Should a validated elk model become available over the course of the plan, it would be considered for use during one of the 5-year forest reports.

2. LANDBASE

A digital modeling land base was created for Forest Management Licence #3 (FML-3) and approved January 29, 2019. In keeping with the Province of Manitoba's stated goal of an ecologically-based approach, an ecological land base consisting of uplands, peatlands and wetlands was created. Approved use of this land base information is limited to strategic planning purposes only (i.e. development of the 20-year FMP). Any use beyond this purpose should not be considered endorsed by either party, unless by written mutual consent.



The MSD Forestry and Peatlands Branch (Inventory and Analysis section) has agreed to update the ecosystem modeling land base. All disturbances up to March 31, 2018 are included in the modeling land base. All analyses by the Province of Manitoba and LP would utilize the same modeling land base file.

3.1 Ecological Boundaries

Ideally, there would be a single ecological land base that follows ecosystem boundaries at a relevant scale. This is well described in Manitoba's publication – *Five-Year Report on the Status of Forestry (2006-2011)*, under the section titled "Ecozone-Based Reporting Structure" (Figure 1).

3.2 Ecological Land Base

Forest Management Licence #3 consists of three Forest Management Units (FMU), which include:

- FMU 10 (east and south of the Duck Mountains)
- FMU 11 (Swan-Pelican forest and Swan Valley area)
- FMU 13 (Duck Mountain Provincial Forest)

Each FMU has a separate forest inventory with a different date of origin and methodology. These differences create some challenges for amalgamating forest land bases and modelling. Various areas (peatlands, wetlands, soils, mapped ecological products) will be incorporated into the ecological land base. Ducks Unlimited Canada wetlands mapping will be used across all FMUs, wherever possible.

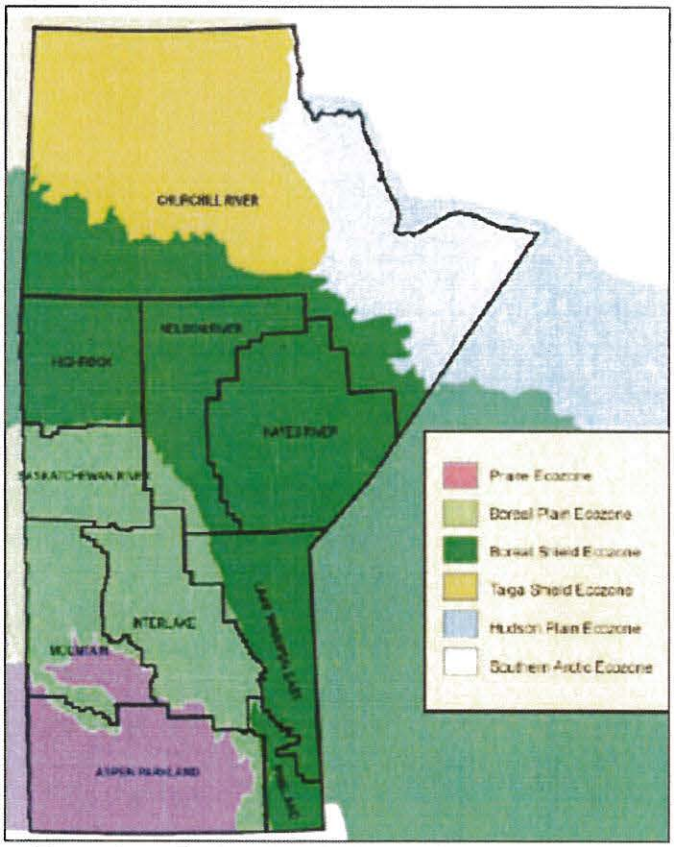


Figure 1. Ecozone boundaries and forest section boundaries in Manitoba

3.3 Land Base Strata

In keeping with the Province of Manitoba's stated goal of an ecologically-based approach, ecological strata will be used for modeling all ecosystems goods and services.

> *"The purpose of FMP is to ensure the use of forest resources in Manitoba is consistent with the province's commitment to an ecosystem-based approach to achieving sustainable forest management."* – Manitoba's Five-year report on the Status of Forestry (April 2006-March 2011).

The Plan proponent can use ecological strata and the Plan regulator can still track timber strata simultaneously. The 2006 FMP took an Ecosystem Based Management approach and used ecosystem strata throughout the FMP (i.e. Volume curves; Carbon curves; Habitat Element Curves – snags, down woody debris, % shrub cover). The ecological strata will also provide an 'ecological robustness' that will benefit biodiversity and modelling for wildlife habitat.

The ecosystem-based strata are based on two ecologically-meaningful parameters: 1) **soil moisture regime**; and 2) **soil nutrient regime**, which is highly correlated to soil texture. Forest ecosystem classification systems across Canada consistently use soil moisture regime and soil nutrient regime as environmental gradients to define ecosystems (Figure 2).

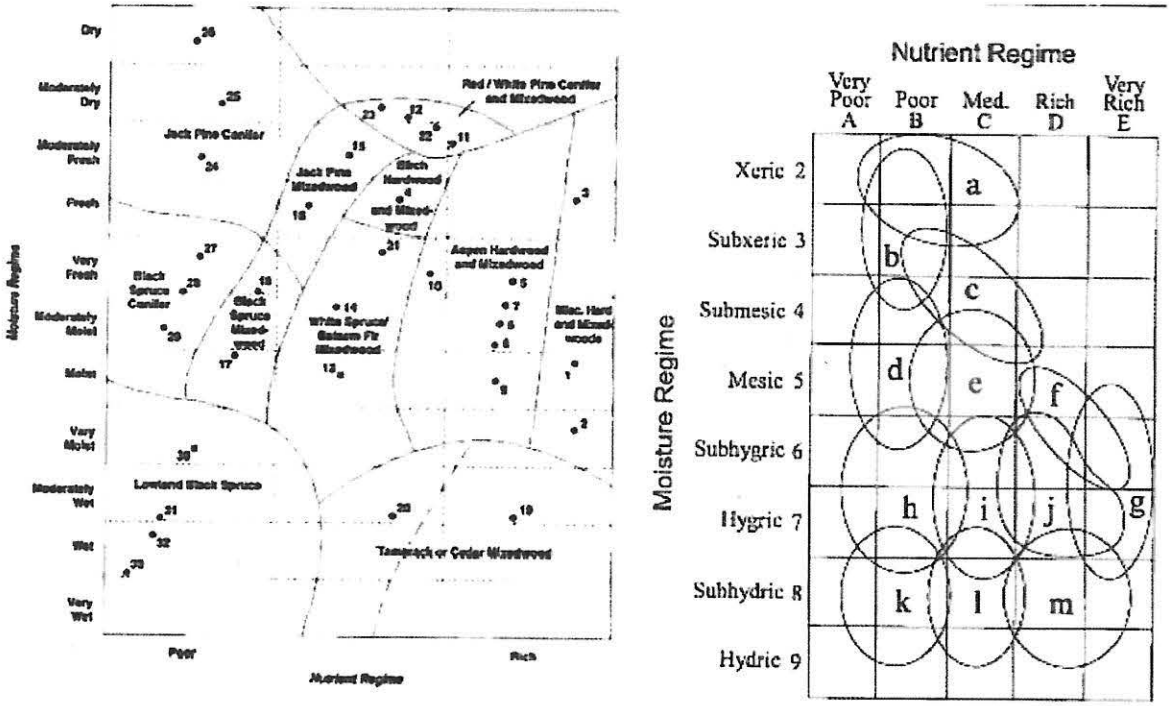


Figure 2. **Edatopic grids use soil moisture regime and soil nutrient classes. Manitoba (left) Zoladeski et al. 1995; and Alberta (right) Beckingham et al. 1996.**

Ecological strata and timber strata are not mutually exclusive on the Duck Mountain land base with the Forest Lands Inventory (FLI). Forestry Corp. consultants and LP have configured the FLI to easily allow for multiple strata to be assigned to every polygon. In the LP data, each polygon in the Duck Mountain Provincial Forest was assigned the following:

- Ecosite
- EcoSeries
- Habitat Element Curve strata
- Ecological Representation Analysis (class 1 to 5)
- Rare Ecosites (scale of 1 to 5)
- Seral stage
- Note that any other classifications can easily be added

3.4 Updating the digital modeling land base

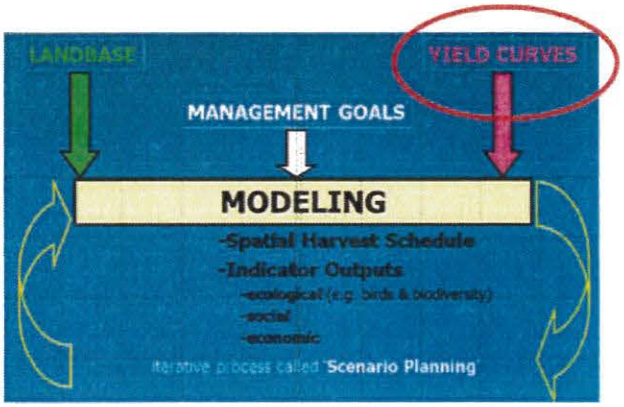
The 2006 FMP modeling landbase will be updated to the date stamp March 31, 2018 including:

- Updating natural disturbance (e.g. June 2012 blowdown event mapped by MSD; any mapped fires or mapped insect and disease events)
- Updating actual cutover boundaries to March 31, 2018
- Account for all wetlands (bogs, fens, swamps, marshes and open water) in FML #3 (using Ducks Unlimited Canada wetland mapping)
- Traditional knowledge if location-specific information is made available
- Ensuring the unique key field (FORESTKEY) is present. FORESTKEY allows us to link each polygon to ecosites, HEC strata, future wildlife habitat rankings, etc.
- Restoring the original FMU 13 Duck Mountain boundary back to the surveyed boundary edge

Harvesting that has occurred after March 31, 2018 will be 'hard wired' into the spatial harvest schedule, to avoid scheduling the harvest of recent cutovers.

3. YIELD CURVES

Yield curves provide information for forest management decisions. Ecosystem yield curves include a variety of ecosystems goods and services (*e.g.* snags and coarse woody debris) in addition to the standard yield curve of merchantable timber volume over age. Note that a yield curve is required for each strata/ ecosystem goods and services combination.



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4.1 Volume Curves

Volume over age (*i.e.* volume curves) is a standard modeling input that estimates changes in timber volume over time across the land base. LP will not use volume curves to determine wood supply, since Forestry and Peatlands Branch determines wood supply (*i.e.* the Annual Allowable Cut) for each Forest Management Unit. Forestry and Peatlands branch will develop a base case wood supply analysis to set the Annual Allowable Cut (AAC) using best available data for yield curves, post-harvest transitions and other inputs and assumptions.

The proposed blocks in an Operating are always subject to the Annual Allowable Cut (AAC) by Forest Management Unit. The landscape-level strategic harvest is also subject to the AAC by Forest Management Unit.

Manitoba Sustainable Development (MSD) will provide LP with the base case wood supply yield curves and related inputs. LP may either: use the base case; build upon the base case; or take a different approach to modeling. MSD will work with LP to discuss any different approaches and/or assumptions used to create an alternate modelling scenario. Any new approaches and/or assumptions to modelling used for Forest Management Plan (FMP) will require implementing a monitoring plan during the life of the FMP.

LP will use the MSD Forestry Branch's yield curves within the range of actual sampled observations (aged 40 to 120 years) from the 2002, Forest Lands Inventory (FLI). LP will not extrapolate stand age beyond 120 years but will use Riding Mountain Permanent Sample Plot (PSP) data for stand ages 120-200 years (LeVac 2012). The Riding Mountain data shows: stand volumes decline with age; canopy gaps opening; and 2-cohort stands forming a lower volume than a single cohort stand. No data is currently available for stand ages older than 200 years.

4.2 Late Stage Stand Development and Succession

It is recognized that differing approaches to modelling late stage stand development and succession may result in a different forecast of future forest conditions. LP and Manitoba Sustainable Development (MSD) agree that a comparison of the forecasted future forest conditions arising from the Base Case (Wood Supply analysis) the Preferred Management Scenario (PMS) will be included in the FMP. MSD will provide LP with the Base Case future forest condition.

MSD and LP can jointly monitor late stage stand development. Joint efforts for data collection (*e.g.* older permanent sample plots), monitoring and analyses will further validate assumptions and enhance the science of later stage stand development and succession.

4.3 Carbon Curves

The Canadian Forest Service - Forest Carbon Accounting model (CBM-CFS3) is one way to account for carbon. However, CBM-CFS3 runs outside the modeling system and requires a data export after each modeling run is completed. The use of CBM-CFS3 carbon curves for ecological strata in the Duck Mountains (Johnston 2005) allows the carbon to be accounted for inside the modeling run and is easily generated with each scenario. In

addition, the carbon curves are calibrated to local conditions using the same data that the Province of Manitoba used for creating yield curves.

4.4 Snag and Coarse Woody Debris Curves

LP will utilize a suite of ecosystem yield curves that will include: Curves for volume over age; snags by age; down woody debris; and percent shrub cover.

4.5 Modeling Inputs - Post-Harvest Transitions

Post-harvest transitions refer to the cover group (*i.e.* hardwood; hardwood-mixedwood; softwood-mixedwood; and softwood stands) that a stand regenerates to after harvest and renewal activities. Post-harvest transitions are a very sensitive input to model and have a significant influence on the species composition of the future forest. The species composition of the forest is further influenced by wildlife habitat values, biodiversity, and other important forest values.

Manitoba Sustainable Development (MSD) will develop a Base Case (Wood Supply analysis) using best available data for yield curves, post-harvest transitions and other inputs and assumptions.

Manitoba Sustainable Development (MSD) will provide LP with the Base Case wood supply yield curves and related inputs. LP may either: use the base case; build upon the base case; or take a different approach to modeling. MSD will work with LP to discuss any different approaches and/or assumptions used to create an alternate modelling scenario.

LP will use silviculture survey data (*i.e.* hardwood regeneration surveys for age 5 years; and Free-To-Grow plantation surveys at 14 years old) to provide a first approximation of post-harvest transitions for ages 5 to 14 years post-harvest. Data from 1996 harvest blocks to present time will be used.

4. MANAGEMENT GOALS

5.1 Management Goals Overview

Management goals have a significant influence over the modeling results and subsequent harvest schedule. For this reason, information received through Information Sharing and Engagement will significantly influence management goals and the harvest schedule.

As a starting point, FMP management goals include the following:

- Maintain or improve moose habitat
- Undertake significant engagement with Indigenous communities, stakeholders and the public
- Maintain or improve biodiversity which includes the selection of indicator species
- Consider climate change in the new 20-Year FMP
- Determine when and where the forest is a carbon sink or a carbon source
- Protect wetlands and waterfowl
- Ensure not to exceed 30% harvest within a watershed
- Ensure not to exceed the Annual Allowable Cut (AAC) of hardwood or softwood within each Forest Management Unit (FMU)

Note that the list of FMP management goals will be updated to include information received through Information Sharing and Engagement.

5.2 Relevant Land Base Management Plans

Land Base Management Plans within or adjacent to Forest Management Licence #3 area will be reviewed.

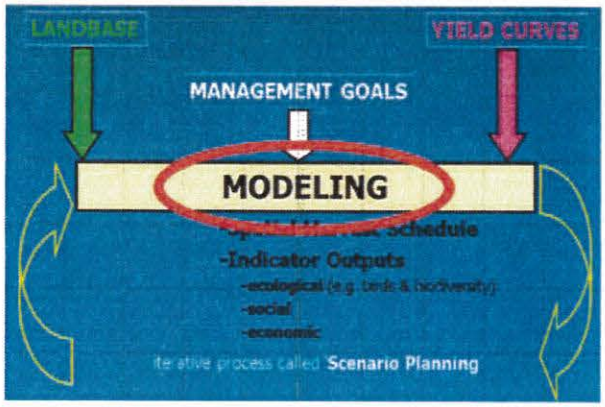
Existing Land Base Management Plans that will be reviewed are as follows:

- 2004 Swan Lake Basin Management Plan
- 2007 Duck Mountain Provincial Park Management Plan
- Saskatchewan Duck Mountain Provincial Park Management Plan
- 2009 Duck Mountain Provincial Park ATV Trail Planning Group
- Integrated Watershed Management Plans
    - 2006 Shell River
    - 2013 (draft) East Duck Mountain – Sagemace Bay Watershed
    - Swan Lake (initiated 2009; in progress)
    - Dauphin Lake (initiated 2010; in progress)
- 2007 Riding Mountain National Park management plan

The goals and objectives of each plan will be reviewed and considered. Wherever possible, forest management activities will attempt to implement or complement each plan's goals and objectives.

5. MODELING

Modeling is the culmination and mixture of the land base, yield curves and management goals. Modeling results in both a spatial harvest schedule and indicator outputs of various ecosystem values.



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Although forest management planning in Manitoba has traditionally been based on **sustained yield timber management**, the need to balance economic objectives with environmental and social needs was enshrined in Manitoba's sustainable development strategy and recommendations that Manitoba's forest management policies move towards the implementation of Sustainable Forest Management.

The practice of sustainable forest management requires different skill sets and a broader knowledge base than sustained yield timber management. The ability to prepare and implement forest management plans based on the concept of sustainable forest management will evolve over time as new data sets are created, research is carried out, and new skills are acquired.

6.1 Modeling Overview

The modeling land base and its' ecological strata utilize yield curves, management objectives, and targets. Scenarios will be run to create modeling output (indicators) and modeling will result in both a harvest schedule and a suite of ecosystem outputs.

6.2 Modeling Scenarios – Scenario Planning

The Plan proponent (LP Canada) will be working towards a forest management scenario that will consider benefits to the moose population.

Scenarios that will be evaluated include:

1. Baseline Forest Management Scenario
2. Moose Emphasis Scenario

The scenarios will be evaluated, "...analyzed and ranked against the management objectives..." as per Table 5 of the FMP Submission guidelines (Manitoba's Submission Guidelines for Twenty Year Forest Management Plans, 2007). A maximum of 10 objectives will be used to score the forest management scenarios. Input from Indigenous communities, stakeholders, and the public will guide the creation of a list of objectives, followed by prioritization of 10 objectives.

The highest ranked scenario will result in the "Preferred Management Approach" which will form part of the Forest Management Plan (FMP), modeling output, and the 20-year spatial harvest schedule.

The 'Preferred Management Approach' forest management scenario will be identified in the 20-Year Forest Management Plan (FMP), complete with harvest schedule maps and ecosystem outputs (*e.g.* amounts of old forest over time).

6.2.1 Spatial Harvest Schedule and the Base Case

The development of the MSD Base Case (wood supply scenario) normally includes a spatial analysis component. The general intent of the spatial component is to quantify the impact of various spatial constraints on indicators, such as modelled harvest levels. Manitoba Sustainable Development (MSD) recognizes that the spatial component of the LP Base Case is not intended to generate an operational spatial harvest schedule. The operational spatial harvest schedule will be generated from the Preferred Management Scenario (PMS) after Information Sharing and Engagement with Indigenous communities is complete, and values other than timber (e.g. water, wildlife, social) are incorporated.

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